

01-22-01

Receipt \$

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Linda Faye

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APR 24 2001

PATENT

Attorney Docket No. 44972077

TC 1700

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of	)	
	)	Group Art Unit: 2811
Stephen E. Savas et al.	)	
	)	
Application No. 09/692,255	)	Examiner: Unassigned
	)	
Filed: 10/19/2000	)	
	)	
For: Systems and Methods for Photoresist	)	
Strip and Residue Treatment in	)	
Integrated Circuit Manufacturing	)	

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**REQUEST FOR CORRECTED APPLICATION FILING RECEIPT**

Assistant Commissioner for Patents  
ATTN: Office of Initial Patent Examination  
Customer Service Center  
Washington, D.C. 20231

Sir:

There are errors with respect to the following, which are omitted, or misspelled:

<b>Error in</b>	<b>Correct data</b>
Applicant(s)	Stephen E. Savas, Taiwan; John Zajac, San Jose, CA; Robert Guerra, Fremont, CA; Wolfgang Helle, Germany
Title	Systems and methods for photoresist strip and residue treatment in integrated circuit manufacturing

Enclosed is a copy of the *Filing Receipt* outlined in red to show the corrections that are needed.

A copy of the first page of the application as filed indicating that Stephen E. Savas, John Zajac, Robert Guerra and Wolfgang Helle are the named inventors, submitted to the U.S. Patent and Trademark Office on October 19, 2000, and the post card acknowledging receipt of same by the USPTO are attached.

Issuance of a corrected Filing Receipt is respectfully requested.

The Commissioner is authorized to charge the fee of \$25.00 to Deposit Account 23-2415 (14912.777). The Commissioner is authorized to charge any other fees associated with this communication to the above Deposit Account.

Respectfully submitted,

WILSON SONSINI GOODRICH & ROSATI

By: \_\_\_\_\_

Michael J. Murphy

Registration No. 37,404

650 Page Mill Road  
Palo Alto, CA 94304-1050  
(650) 493-9300

Date: January 19, 2001

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Page 1 of 3  
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UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20230  
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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/692,255	10/19/2000	2811	2280	14912.777	15	85	1

TC 1700

021971  
WILSON SONSINI GOODRICH & ROSATI  
650 PAGE MILL ROAD  
PALO ALTO, CA 943041050

**FILING RECEIPT**



\*OC000000005646760\*

Date Mailed: 01/01/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the PTO processes the reply to the Notice, the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

**Applicant(s)**

Stephen E. Savas, Residence, ~~NOT PROVIDED~~; TAIWAN; JOHN ZAJAC, SAN JOSE, CA; ROBERT GUERRA, FREMONT, CA; WOLFGANG HELLE, GERMANY

**Continuing Data as Claimed by Applicant**

THIS APPLN CLAIMS BENEFIT OF 60/160,554 10/20/1999

**Foreign Applications**

If Required, Foreign Filing License Granted 12/29/2000

**Title**

Systems and methods for photoresist strip and residue treatment integrated circuit manufacturing

**Preliminary Class**

257

Data entry by : ROBINSON, YOLANDA

Team : OIPE

Date: 01/01/2001





**LICENSE FOR FOREIGN FILING UNDER**  
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**Title 37, Code of Federal Regulations, 5.11 & 5.15**

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**PLEASE NOTE the following information about the Filing Receipt:**

- The articles such as "a," "an" and "the" are not included as the first words in the title of an application. They are considered to be unnecessary to the understanding of the title.
- The words "new," "improved," "improvements in" or "relating to" are not included as first words in the title of an application because a patent application, by nature, is a new idea or improvement.
- The title may be truncated if it consists of more than 600 characters (letters and spaces combined).
- The docket number allows a maximum of 25 characters.
- If your application was submitted under 37 CFR 1.10, your filing date should be the "date in" found on the Express Mail label. If there is a discrepancy, you should submit a request for a corrected Filing Receipt along with a copy of the Express Mail label showing the "date in."
- The title is recorded in sentence case.

Any corrections that may need to be done to your Filing Receipt should be directed to:

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PATENT  
Attorney Docket No. 14912777  
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JAN 19 2001

**SYSTEMS AND METHODS FOR PHOTORESIST STRIP  
AND RESIDUE TREATMENT IN  
INTEGRATED CIRCUIT MANUFACTURING**

Inventors: Stephen E. Savas  
John Zajac  
Robert Guerra  
Wolfgang Helle

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**TC 1700**

**BACKGROUND OF THE INVENTION**

**1. Reference to Related Application**

This application claims priority to U.S. provisional application no. 60/160,554 filed October 20, 1999. U.S. application no. 60/160,554 is hereby incorporated herein by  
5 reference.


**2. Field of the Invention**

The field of this invention relates in general to semiconductor processing. More particularly, the field of the invention relates to systems and methods of stripping photoresist and removing residues from a semiconductor substrate.

10 **3. Background**

Future semiconductor manufacturing technologies are expected to have stringent requirements for a variety of specific critical photoresist and residue removal processes, due in part to reductions in component size, increasing circuit speeds, and greater sensitivity of devices to surface contamination. These processes include, but are not limited to: 1)  
15 photoresist stripping following a high-dose ion-implantation (HDIS) process, 2) via cleaning, which means the removal of veils and residues following a via etch, particularly in the case where the dielectric layer through which the via is being formed is overlaying an aluminum or copper metallic layer, and 3) photoresist removal in the presence of a low-dielectric constant (low-k) material.

20 Current photoresist stripping methods are unable to cope with these new stringent requirements. For example, decreasing transistor sizes are making shallower and heavier doping levels necessary, which puts an additional burden on the photoresist mask used to protect the areas that will not be implanted. Another example has to do with vias, where

Title: <b>SYSTEMS AND METHODS FOR PHOTORESIST STRIP AND RESIDUE TREATMENT IN IC MFG.</b>		
Inventors/Applicant: <b>SAVAS ET AL.</b>		
Application Serial No.: <b>NEW</b>	Filing Date:	
Type Of Application: <input type="checkbox"/> Provisional <input type="checkbox"/> Original <input type="checkbox"/> CIP <input checked="" type="checkbox"/> Continuation <input type="checkbox"/> Divisional <input type="checkbox"/> CPA <input type="checkbox"/> PCT		
<input checked="" type="checkbox"/> Transmittal of Patent Application <input checked="" type="checkbox"/> Specification and Abstract <b>45</b> pages <input checked="" type="checkbox"/> Claims <b>11</b> pages <input checked="" type="checkbox"/> Drawings <b>15</b> pages <input type="checkbox"/> Missing Parts of Application Transmittal <input type="checkbox"/> Declaration/Oath <input type="checkbox"/> Combined Declaration/Power of Attorney <input type="checkbox"/> Power of Attorney <input type="checkbox"/> Power of Attorney by Assignee <input type="checkbox"/> Assignment/Form PTO 1595 <input type="checkbox"/> Small Entity Declaration <input type="checkbox"/> PCT International Application Request Form _____ pages <input type="checkbox"/> Specification _____ pages <input type="checkbox"/> Claims _____ pages <input type="checkbox"/> Abstract _____ pages <input type="checkbox"/> Drawings _____ pages	<input checked="" type="checkbox"/> Fee Transmittal <input checked="" type="checkbox"/> Filing Fee \$ _____ <input checked="" type="checkbox"/> Claims in excess \$ _____ <input checked="" type="checkbox"/> Independent claims in excess \$ _____ <input type="checkbox"/> Surcharge \$ _____	<input type="checkbox"/> Extension of time fee \$ _____ <input type="checkbox"/> Req-Corr Filing Receipt Fee \$ _____ <input type="checkbox"/> Issue fee/advance order \$ _____ <input type="checkbox"/> Other Fee \$ _____
<input type="checkbox"/> Extension of time (____ mo.) <input type="checkbox"/> Request for Corrected Filing Receipt <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Form PTO-1449 with _____ references <input type="checkbox"/> Amendment/Response <input type="checkbox"/> Issue Fee <input type="checkbox"/> Formal Drawings	<input type="checkbox"/> Chapter II Request/Fee Sheet <input type="checkbox"/> Response-Invitation to Correct <input type="checkbox"/> Article 34 <input type="checkbox"/> Article 19 <input type="checkbox"/> Response to Written Opinion	
<input checked="" type="checkbox"/> Express Mail Certificate No. <b>EL 341553302 US</b> <input type="checkbox"/> First Class Mail <input checked="" type="checkbox"/> Authorization to Charge Deposit Account No. 23-2415	<input type="checkbox"/> Other: _____	
Attorney Docket No. <b>14912.777</b> Attorney: <b>Michael J. MURPHY</b>	Date Mailed. <b>OCT. 19, 2000</b> <div style="text-align: right;"> <b>jc932 U.S. PTO</b>  <b>09/692255</b>    <b>10/19/00</b> </div>	

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